

Part 1


Village of the future




introduction video

Oh yes, the following tip might be important:


Our colleague likes to work with symbols to link things that belong together and he likes to use numbers for encryption.



If a solar thermal system consisting of different modules is to be installed, these modules should not simply be combined in any kind of way with each other. Because the type of interconnection and the key data of the solar cells have a major impact on the voltage and current.




If you are looking for a suitable electronic component, it is always helpful to take a look at the data sheet and the characteristic curve. The open-circuit voltage and the short-circuit current are important characteristics. Which diagram matches one of the three solar cells? And where did the characteristic curve go?



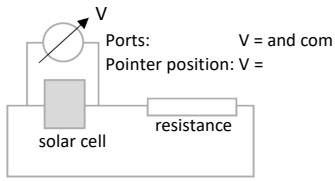
It is always important to ensure that an energy source and a "consumer" must be coordinated with each other. Because the maximum possible power should be provided. This is the case at the **Maximum Power Point**.

Solar modules: important parameters

- Short-circuit current ($U=0V$): I with $R=0\Omega$
- Open-circuit voltage ($I=0A$): U with $R=\infty$
- MPP – Point with maximum power WMPP
- To reach PMPP, the corresponding resistance RMPP is required.



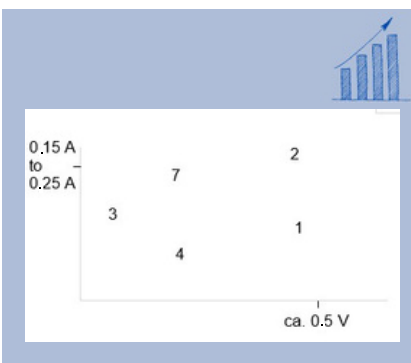
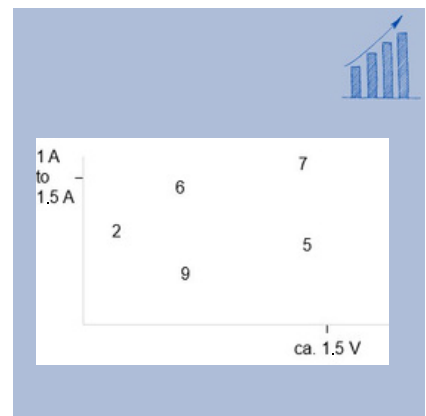


circuit for measuring the voltage


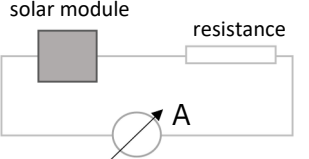


Ports: $V =$ and com
Pointer position: $V =$

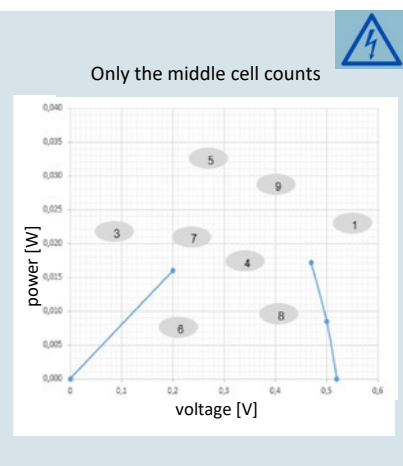
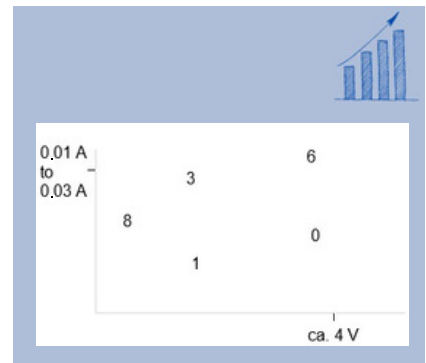
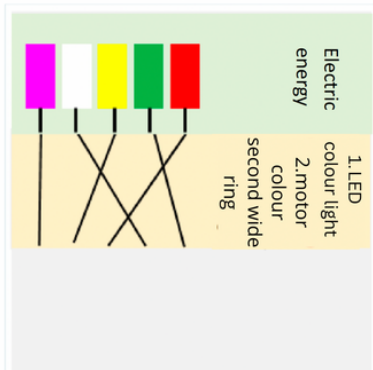
Note MPP:

measurement of current

Ports: $A =$ and com
Pointer Position: $A =$

Electric energy	Energy Input
1. LED colour light	Energy Converter
2. motor colour second wide ring	Energy Output

The energy converter converts the colours of LEDs or circles into numbers



What form of energy do you need for operation? What form of energy is released? It is not solar energy.

Note:

We are looking for 5 numbers. Use them and complete the QR-Code. Scan it and you will receive important information for riddle part 2.